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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,907

11/25/2003

Tetsushi Tanada

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EXAMINER
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NGUYEN, THANH NHAN P

ART UNIT	PAPER NUMBER
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2871

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10/06/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/722,907	<b>Applicant(s)</b> TANADA ET AL.	
	<b>Examiner</b> THANH-NHAN P. NGUYEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-6 and 9-28 is/are pending in the application.
- 4a) Of the above claim(s) 1,4-6 and 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al (US 2002/0030774).**

Further, Yoshii et al disclose (figs. 8 and 14; par. 0086) a reflector (31) attached to an outer surface of a glass substrate comprising:

Claim 21:

- an adhesive layer (59) attached to the glass substrate (54) (*wherein glass substrates '53' and '54' used to form liquid crystal layer '55' in between – emphasis added*)
- a reflective film (35)
- a processed resin layer (33) having a plurality of recesses, which defines a reflection characteristic of the reflective film
- a moisture-proof film (32) base that supports the processed resin layer
- wherein the reflective film is disposed between the adhesive film and brought into direct contact with the processed resin layer such that a shape of the plurality of recesses of the processed resin layer is reflected in the reflection film and

Art Unit: 2871

wherein the adhesive film (59) and the glass substrate (54), in that order, are laminated upon the reflective film

- wherein the recesses are formed in a spherical shape for reflection and randomly arranged, and contact portions between the recesses area formed in a peaked shape
- wherein the moisture-proof film base includes a material with low moisture absorption and low moisture permeation

Yoshii et al lacks disclosure of the moisture-proof film base has a thickness of 0.05 to 1 mm.

However, it would have been obvious to one ordinary skill in the art to have the moisture-proof film base (in the reflector) has a thickness in the range of 0.05 to 1 mm. If its thickness is less than 0.05 mm, it might not be able to obtain sufficient moisture-proof effect; and if its thickness is more than 1 mm, it could be affected to the whole reflector thickness.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the moisture-proof film base (in the reflector) has a thickness in the sufficient range of 0.05 to 1 mm for being able to obtain sufficient moisture-proof effect.

Claim 25:

Yoshii et al disclose a reflector attached to an outer surface of a glass substrate comprising all the limitations recited in claim 21 except for a support resin layer having a

Art Unit: 2871

high glass transition temperature interposed between the processed resin layer and the moisture-proof film base.

Even though Yoshii et al do not explicitly disclose a support resin layer having a high glass transition temperature interposed between the processed resin layer and the moisture-proof film base, it would have been obvious to one of ordinary skill in the art to add another resin layer (which is the support resin layer; and located between the processed resin layer and the moisture-proof film base layer in current invention – emphasis added) for at least the advantage of achieving more moisture resistance in a reflector plate. Therefore, it does not patentably distinguish the invention.

**Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al in view of Shiotsuka et al (US 6,191,353).**

Yoshii et al disclose a reflector attached to an outer surface of a glass substrate comprising all the limitations recited in claim 21 except the moisture-proof film base includes polyphenylene sulfide or polyvinylidene fluoride.

Shiotsuka et al disclose (col. 11, lines 8-19) the surface protective film can include polyvinylidene fluoride film for the advantages in terms of moisture resistance and/or weatherability.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the moisture-proof film base includes polyphenylene sulfide or polyvinylidene fluoride for the advantages in terms of moisture resistance and/or weatherability.

Art Unit: 2871

**Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al in view of Funahata et al (US 6,803,980) and Sasagawa et al (US 2001/0035927).**

Claim 27:

Yoshii et al disclose a reflector attached to an outer surface of a glass substrate comprising all the limitations recited in claim 21 except a thickness of the reflective film is between 80 nm and 200 nm.

Funahata et al disclose (fig. 5; col. 11, lines 42-43) a reflective film (3) having a thickness of 100 nm; Sasagawa et al disclose (par. 0197) a reflective film having a thickness of at least 50 nm for sufficient reflectivity.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a thickness of the reflective film is between 80 nm and 200 nm for the benefit of achieving sufficient reflectivity.

Claim 28 is met the discussion regarding claim 27 rejection above.

**Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al in view of Matsuda et al (US 5361163).**

Claim 22:

Yoshii et al disclose (figs. 8, 10 and 14) a method of forming a reflector (31) attached to the outer surface of a glass substrate (54), the reflector including an adhesive layer (59) attached to the glass substrate (54), a reflective film (35), a processed resin layer (33) having a plurality of recesses which define a reflection

Art Unit: 2871

characteristic of the reflective film, and a moisture-proof film base (32) for supporting the processing resin layer, the method comprising:

- laminating the adhesive film (59) and the glass substrate (54), in that order, upon the reflective film (35)
- wherein the reflective film brought into directly contact with the processed resin layer
- wherein the recesses are formed in a spherical shape for reflection and are randomly arranged
- wherein contact portions between the recesses are formed in a peaked shape

Further, Yoshii et al (figs. 10A-F) use a diamond indenter to form the recesses (concaves) in the processed resin layer instead of using roll-shaped embossing mother die as in current invention.

However, the method of using roll-shaped embossing mother die to form the recesses on the surface of the processed resin layer is well known in the art, as evidenced by Matsuda et al (figs. 20-22 and 26-29) for the advantage of achieving mass-production.

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to form a reflector by using roll-shaped embossing mother die to form the recesses on the surface of the processed resin layer for the advantage of achieving mass-production.

Claim 24:

Yoshii et al disclose a method of forming a reflector attached to the outer surface of a glass substrate comprising all the limitations recited in claim 22.

Yoshii et al do not explicitly disclose wherein the roll-shaped embossing mother die includes a cylindrical embossing roll and an electroforming plate wound on the embossing roll, the surface of the electroforming plate having irregularities corresponding to the shape of the recesses.

However, it would have been obvious to one of ordinary skill in the art to have the roll-shaped embossing mother die includes a cylindrical embossing roll and an electroforming plate wound on the embossing roll, the surface of the electroforming plate having irregularities corresponding to the shape of the recesses for the advantage of achieving mass-production. Thus, it does not patentably distinguish the invention.

**Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshii et al in view of Matsuda et al, and further in view of Suga (US 2004/0076396).**

Yoshii et al disclose a method of forming a reflector attached to the outer surface of a glass substrate comprising all the limitations recited in claim 22 except the roll-shaped embossing mother die includes heating surface to heat the processed resin layer.

It would have been obvious to one ordinary skill in the art to have the roll-shaped embossing mother die includes heating surface to heat the processed resin layer to get embossed easily on the processed resin layer, as evidenced by Suga (figs. 38; par. 0304), and therefore, does not patentably distinguish the invention.



***Response to Arguments***

Applicant's arguments with respect to claims 21-28 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4,106,859.

US 2002/0054259.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Application/Control Number: 10/722,907

Page 9

Art Unit: 2871

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

-- September 29, 2008  
TN

/David Nelms/  
Supervisory Patent Examiner, Art Unit 2871